

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Timberline Tool & Casting

Montana Manufacturing Extension Center

Timberline Tool & Casting Implements Pull System

Client Profile:

Timberline Tool & Casting, located in Whitefish, Montana is both a foundry and manufacturer, casting and fabricating its own product lines, large aluminum tools, for the utility and firefighting industries. Its innovative tools have revolutionized the way utility operators squeeze-off polyethylene (PE) gas and water pipes for repairs and maintenance, eliminating the need for multiple operators and costly under-the-pipe excavation. The company employs 10 people.

Situation:

Timberline Tool approached the Montana Manufacturing Extension Center (MMEC), a NIST MEP network affiliate, for a layout for their new building. MMEC recommended implementing a Pull System, a Lean Manufacturing strategy that starts with actual customer demand rather than being pushed from a front office forecast. The company welcomed the opportunity to put a whole system together.

Solution:

MMEC worked with Timberline Tool to optimize layout, and implemented several Lean manufacturing techniques including Point of Use Storage, 5S (Sort, Set-in-order, Shine, Standardize, Sustain), Kanbans, and the visual, customer-driven Pull System. MMEC suggested scheduling the shop based upon consumption (orders being shipped). A finished goods supermarket was set up and then the signals created that, once a certain amount of product was shipped, would trigger an order to the factory floor. A simple color coded, movable card (or signal) that contains the product details and other relevant information acts as the order. It is used to control inventory and help with production planning. Today, in the new facility, this simple card triggers activities throughout the plant that keep orders flowing, and helps manage inventory effectively. A First-In First-Out (FIFO) board acts as a communication tool for the entire shop. From it, the production manager is able to schedule the shop, making adjustments as needed.

Timberline Tool has become an MMEC showcase for how a Pull System works. MMEC's Field Engineer who guided the implementation has taken several area companies through the facility to give them a clear, visual understanding of how the system works. The Pull System has been very beneficial for Timberline Tool. It eliminated overstock with a 65 percent reduction in finished goods without delivery delays. This cut inventory carrying costs by more than \$135,000 dollars on just two high-demand tools. Tool prices were reduced, despite the significant rise in aluminum, and long lead times also dropped. Point-of-use storage (POUS), having components when needed, and a streamlined layout has reduced assembly time for one tool by 17 percent. The system decreased needed storage space by 1,000 square feet. Labor costs dropped by setting up CNC mills so that one operator runs both, setting one up, getting it going, and then starting setup on the other. Raw material storage, previously scattered, is now consolidated and orderly, and physical inventory now takes one person roughly 5 hours each month rather than a full day.

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Results:

- * Realized \$135,000 in cost savings
- * Reduced finished goods by 65 percent..
- * Reduced assembly time by 17 percent.
- * Reduced storage space by 1,000 square feet.

Testimonial:

"What it's done for us is increased the flow through the foundry and factory. The parts are in order and put away. You go out on the shop floor and can see the system at work. Things go easier; there are no surprises."

Ken Green, President